

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) In a data communications environment including:  
~~at least one mobile computing device coupled to the~~ a plurality of data networks  
or subnetworks capable of communicating Internet Protocol packet-based data;  
at least one resource consumer that consumes at least one resource;  
at least one mobile computing device coupled to at least one of said plurality of  
networks or subnetworks; and  
at least another computing device that is coupled to at least one of said plurality of  
networks and/or subnetworks,  
wherein said at least one mobile computing device communicating communicates  
with said at least another computing device at least in part via at least one of said  
plurality of networks or subnetworks,  
a distributed policy-management arrangement comprising:  
a policy management module present at least on said at least one mobile  
computing device, said policy management module dynamically conditioning or  
dynamically modifying at least one computing device that performs policy management  
~~that manages at least one of consumption of and access to said at least one computer~~

resource by said at least one resource consumer application, said computing resource available at least in part through the network or subnetwork;

wherein said distributed policy management arrangement provides at least one of (a) a rule, and (b) a control, that dynamically conditions or dynamically modifies on at least one of said consumption of and said access to said resource by the resource consumer the at least another computing device and the at least one mobile computing device based at least in part on, that dynamically determines selectable levels of service based at least in part on one of (a) a change in the state of the resource consumer, (b) the identity of the resource consumer, (c) said mobile computing device's ability to communicate communication capability via at least one of said plurality of networks or subnetworks, (d) a time event associated with said policy management arrangement, and (e) a mobility event associated with said mobile computing device.

wherein said policy management arrangement dynamically conditions or dynamically modifies said consumption of or access to the said at least one resource even if said communication(s) are encrypted.

2. (currently amended) A distributed policy management arrangement as in claim 1 wherein said policy management arrangement distributes processing of attributes of policy management rules to the at least one mobile computing device.

3. (currently amended) A distributed policy management arrangement as in claim 1 further comprising a priority arrangement that prioritizes policy management rules by

position in a policy table and/or explicit notation by an ordinal ~~ensuring the to provide~~  
expected behavior.

4. (currently amended) A distributed policy management arrangement as in claim  
1 further comprising a datastore for rule attributes that is locally or centrally  
administered via central management services.

5. (currently amended) A distributed policy management arrangement as in claim 1  
further comprising an arrangement that modifies behavior of a particular application(s)  
based on ~~a number of~~ at least one parameters.

6. (currently amended) A distributed policy management arrangement as in claim  
1 wherein the effect of the policy management is to dynamically allow, deny or delay  
requests based on attributes of policy management rules.

7. (currently amended) A distributed policy management arrangement as in claim  
1 further comprising an arrangement that invokes a rule or set of rules to control or  
modify an application(s) process even after the application is already started.

8. (currently amended) A distributed policy management arrangement as in claim  
1 further comprising point of presence location information that is further used to govern  
application(s) at least one of consumption of and access to the ~~computer~~-resource and  
provide relevant information to the at least one mobile computing device or the at least  
another computing device.

9. (currently amended) A distributed policy management arrangement as in claim 1 further comprising an arrangement that uses rate of motion along with distance measurements to govern ~~application(s)~~ at least one of consumption of and access to the ~~computer~~ resource and/or the communication path.

10. (currently amended) A distributed policy management arrangement as in claim 8 further comprising an arrangement that extracts topological information as result of the location information.

11. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement performs per-user mobile policy management for managing consumption of the at least one ~~network~~ resource.

12. (currently amended) The distributed policy management arrangement of claim 1 further including a ~~component~~module allowing a system administrator to centrally manage or control the at least one of consumption of and access to ~~network resources~~ said at least one resource by application(s) executing ~~at on~~ at least one of the mobile computing device and the at least another computing device.

13. (currently amended) The distributed policy management arrangement of claim 12 further including a ~~component~~module that allows a system administrator to place policy management controls on at least one of the mobile computing device and the at least another computing device.

14. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement manages consumption of network bandwidth.

15. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement manages consumption of network resources.

16. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement provides security related controls.

17. (currently amended) The distributed policy management arrangement ~~network~~ of claim 1 wherein said policy management arrangement provides centralized administration of policy to be enforced.

18. (currently amended) The distributed policy management arrangement of claim 1 wherein said at least another computing device comprises a proxy server.

19. (currently amended) The distributed policy management arrangement of claim 1 wherein said at least another computing device proxies distinct data streams for mobile computing devices and thereby provides a central point from which to conduct policy management.

20. (currently amended) The distributed policy management arrangement of claim 1 wherein said at least another computing device controls and limits access to ~~the a~~ computing resource on a per-user basis, ~~as well as on a per-device basis or both.~~

21 (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement locks out certain users from accessing ~~the~~ at least one ~~computing~~ resource.

22 (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement ~~interacts with users and controls~~ particular web universal resource locators that ~~URL's said users can be accessed~~ visit.

23 (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement filters data associated with an application service request.

24. (currently amended) The distributed policy management arrangement of claim 1 wherein said at least one mobile device or said at least another computing device compresses application(s) data based at least in part on said rule or control.

25. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement enhances an application level service in a seamless manner.

26. (currently amended) The distributed policy management arrangement of claim 1 wherein said policy management arrangement enhances an application level service in a transparent manner.

27. (currently amended) A distributed policy management arrangement as in claim 1 further comprising an arrangement that modifies behavior of a particular application(s) based on a number of parameters including network point of attachment.

28. (currently amended) A distributed policy management arrangement as in claim 1 further comprising an arrangement that modifies behavior of a particular application(s) based on parameters including trust relationship.

29. (currently amended) ~~A~~In a network computing environment comprising:  
a plurality of networks or subnetworks;  
at least one ~~software component~~resource consumer that consumes at least one ~~computing resource~~at least in part via at least one of said plurality of networks or subnetworks;

at least one mobile computing device coupled to at least one of said plurality of networks or subnetworks; and

at least another computing device that is coupled to at least one of said plurality of networks or subnetworks.

a distributed policy management system including a first module operating operable on said at least another computing device ~~that is coupled to~~ said at least one of said networks or subnetworks,

said distributed policy management system including a second module operable on said mobile computing device, said first and second modules cooperating with said policy

~~management system to dynamically manage at least one of: (a) access by said mobile computing device~~resource consumer to the at least one resource, and (b) consumption by said ~~mobile computing device~~resource consumer of the at least one resource, ~~the resource at least in part available through said networks or subnetworks as said mobile computing device roams between said plurality of networks or subnetworks, even if the mobile computing device becomes unreachable or communications accessing or consuming to the at least one resource is secure~~encrypted.

30. (previously presented) The network computing environment of claim 29 wherein said mobile computing device accesses said network or subnetwork wirelessly.

31 (previously presented) The network computing environment of claim 29 wherein dynamically managing includes dynamically controlling.

32. (previously presented) The network computing environment of claim 29 wherein said another computing device acts as a proxy for said mobile computing device.

33. (previously presented) The network computing environment of claim 29 wherein said mobile computing device and said policy management system cooperate to manage at least one of access to and consumption of the resource on a per user basis.

34. (previously presented) The network computing environment of claim 29 wherein said mobile computing device and said policy management system cooperate to manage at least one of access to and consumption of the resource on a per device basis.



35. (previously presented) The network computing environment of claim 29 wherein said mobile computing device and said policy management system cooperate to manage at least one of access to and consumption of the resource on both a per user basis and a per device basis.

36. (previously presented) The network computing environment of claim 29 wherein said mobile computing device and said policy management system cooperate to enhance an application-level service in a transparent manner.

37. (previously presented) The network computing environment of claim 29 wherein said another computing device and said mobile computing device cooperate to provide policy decision-making based on at least a cost metric.

38. (currently amended) The network computing environment of claim 37 wherein said environment is multi-homed/multi-path, and said cost metric comprises a least cost along at least one of multiple communication paths~~routing~~.

39. (previously presented) The network computing environment of claim 29 wherein said policy management system and said mobile computing device cooperate to enforce policy management rules based at least in part on locale of the mobile computing device.

40. (previously presented) The network computing environment of claim 39 wherein the locale comprises proximity to a network point of attachment(s)

41. (previously presented) The network computing environment of claim 39 wherein the locale comprises proximity to an access point(s)/base station(s)

42. (previously presented) The network computing environment of claim 39 wherein the locale comprises proximity to a network hub(s)

43. (previously presented) The network computing environment of claim 39 wherein the locale comprises proximity to a router(s)

44. (previously presented) The network computing environment of claim 39 wherein the locale comprises a GPS coordinate(s)

45. (previously presented) The network computing environment of claim 29 wherein said policy management system and said mobile computing device cooperate to allow certain operations in one area of an enterprise but not in another area of said enterprise.

46. (currently amended) The network computing environment of claim 29 wherein at least one of said another computing device and said mobile computing device is limited by the policy management system such that said application(s) operating on the mobile computing device is allowed to access ~~to~~ or consume services of less than all of said plurality of networks or subnetworks.

47. (previously presented) The network computing environment of claim 29 wherein said environment comprises an enterprise having a loading dock area and an office area served by at least one wireless network, and said policy management system

cooperating with said mobile computing device does not permit said mobile computing device to access the office environment via said wireless network.

48. (previously presented) The network computing environment of claim 29 wherein said policy management system and said mobile computing device cooperate to govern the rate at which an application's operations/transactions are completed.

49. (previously presented) The network computing environment of claim 48 wherein said policy management system learns the governing dynamically.

50. (previously presented) The network computing environment of claim 29 wherein said policy management system allows for other actions to be invoked based on rule evaluation.

51. (previously presented) The network computing environment of claim 29 wherein said policy management system logs events.

52. (previously presented) The network computing environment of claim 29 wherein said policy management system sends alerts.

53 (previously presented) The network computing environment of claim 29 wherein said policy management system notifies users that an action is being denied, delayed, or conditioned.

54 (previously presented) The network computing environment of claim 29 wherein said policy management system interactively notifies users.

55. (currently amended). The network computing environment of claim 29 wherein said policy management system allows ~~an operator~~ a user to override existing rules.

56. (previously presented) The network computing environment of claim 29 wherein said policy management system acquires other locale base information and services for policy management.

57 (previously presented) The network computing environment of claim 29 wherein said policy management system acquires other locale base information and services for network modeling.

58. (previously presented) The network computing environment of claim 29 wherein said policy management system acquires other locale base information and services for asset tracking.

59. (previously presented) The network computing environment of claim 29 wherein said policy management system automatically presents information applicable within context of a mobile computing device present location.

60. (previously presented) The network computing environment of claim 59 wherein said information comprises a message.

61. (previously presented) The network computing environment of claim 59 wherein said information comprises a file.

62. (previously presented) The network computing environment of claim 59 wherein the information comprises an electronic format.

63. (previously presented) The network computing environment of claim 59 wherein the information comprises current sales, discounts, and services.

64. (previously presented) The network computing environment of claim 59 wherein the information comprises electronic coupons used for sales promotion.

65. (currently amended) The network computing environment of claim 29 wherein said environment provides seamless connectivity for said mobile computing device while ~~switching-migrating among~~ network mediums or points of attachments.

66. (previously presented) The network computing environment of claim 29 wherein said policy management system comprises a rules engine that applies at least one rule.

67 (previously presented) The network computing environment of claim 66 wherein said rule comprises a learned rule.

68 (previously presented) The network computing environment of claim 66 wherein said rule comprises a statically defined rule.

69. (currently amended) The network computing environment of claim 29 wherein said policy management system applies a rule based on at least one of a user, a user group, a device, a device group, a process, an application identity, a network point of attachment.

70. (currently amended) The network computing environment of claim 29 wherein said policy management system uses a distributed architecture to apply or share ~~the same~~ decision set.

71. (currently amended) The network computing environment of claim 29 wherein said policy management system performs the policy management processing and/or decision to accommodate limited processing power or electrical power of the mobile computing device.

72. (currently amended) The network computing environment of claim 29 wherein said policy management system performs policy management processing and/or decision to accommodate bandwidth limitations of the ~~current~~ network(s) or subnetwork(s) the mobile computing device has access to.

73. (previously presented) The network computing environment of claim 29 wherein said policy management system performs policy management processing and/or decision making to accommodate security considerations of the mobile computing device.

74. (previously presented) The network computing environment of claim 29 wherein said policy management system defines and populates a policy table.

75. (previously presented) The network computing environment of claim 74 wherein said policy management system statically populates the policy table .

76. (previously presented) The network computing environment of claim 74 wherein said policy management system dynamically populates the policy table.

77 (previously presented) The network computing environment of claim 29 wherein said policy management system updates policy anytime before establishing a connection.

78 (previously presented) The network computing environment of claim 29 wherein said policy management system updates policy anytime while establishing a connection.

79 (previously presented) The network computing environment of claim 29 wherein said policy management system updates policy anytime after establishing a connection.

80. (previously presented) The network computing environment of claim 29 wherein said policy management system dynamically manages and/or controls at least one of access to and consumption of the resource even while the mobile computing device is unreachable.

81. (previously presented) The network computing environment of claim 29 wherein said policy management system dynamically manages and/or controls at least one of access to and consumption of the resource even while the mobile computing device is unable to send IP datagrams over any network or subnetwork.

82 (currently amended) In a ~~wireless connectivity~~ data communications  
environment ~~comprising roaming including:~~

a plurality of networks or subnetworks,

at least one resource consumer that consumes at least one resource at least in part  
via at least one of said plurality of networks or subnetworks,

at least one mobile computing device communicating with at least one within a  
network environment comprising of said a plurality of networks or subnetworks, and

at least another computing device that is coupled to at least one of said plurality of  
networks and subnetworks,

a method comprising:

~~and~~ executing, on said at least one mobile computing device, said resource  
consumer comprising at least one software component module that at least one of accesses  
and consumes at least one computing resource via said at least one of said plurality of  
networks or subnetworks, and

~~a managing policy management method comprising~~ at least in part through  
cooperation involving said mobile computing device, including dynamically managing,  
based at least on an identity of at least one computing application, at least one of: (a)  
access by said ~~mobile computing device resource consumer~~ to said resource, and (b)  
consumption by said ~~mobile computing device resource consumer~~ of said resource, at



least in part in response to change in the state ofas said mobile computing device ~~reaches~~,  
even if communications ~~to-with~~ the resource is ~~secure~~encrypted.

83. (currently amended) The method of claim 82 wherein said mobile computing  
device wirelessly accesses at least one of said plural networks or subnetworks.

84. (previously presented) The method of claim 82 wherein said dynamically  
managing comprises dynamically controlling.

85. (previously presented) The method of claim 82 further including using  
another computing device to proxy said mobile computing device.

86. (previously presented) The method of claim 82 further including cooperating  
with said mobile computing device to manage at least one of access to and consumption  
of the resource on a per user basis.

87. (previously presented) The method of claim 82 further including cooperating  
with the mobile computing device to manage at least one of access to and consumption of  
the resource on a per device basis.

88. (previously presented) The method of claim 82 further including providing  
policy decision-making based on a cost metric.

89. (currently amended) The method of claim 82 further including providing least  
cost consumption~~routing~~ within a multi-homed/multi-path environment.

90. (previously presented) The method of claim 82 further including enforcing  
policy management rules based at least in part on locale of the mobile computing device.

91. (previously presented) The method of claim 82 further including allowing certain operations in one area of an enterprise but not in another area of said enterprise.

92. (currently amended) The method of claim 82 further including allowing said mobile computing device to access or consume ~~services or resources~~ via less than all of said plurality of networks ~~or~~ and subnetworks.

93. (previously presented) The method of claim 82 further including governing the rate at which an application's operations/transactions are completed.

94 (previously presented) The method of claim 82 further including notifying users that an action is being denied, delayed, or conditioned.

95. (previously presented) The method of claim 82 further including allowing an operator to override predetermined policy rules.

96. (previously presented) The method of claim 82 further including acquiring other locale base information and services for policy management.

97. (previously presented) The method of claim 82 further including automatically presenting information applicable within the context of a mobile computing device present location.

98. (currently amended) The method of claim 82 further including providing seamless connectivity for said mobile computing device while migrating among ~~switching~~ network mediums or point of attachments.

99. (currently amended) The method of claim 82 further including configuring rules based on at least one of a user, a user group, a device, a device group, a process, an application identity, and a network point of attachment.

100. (previously presented) The method of claim 82 further including sharing a policy decision set within a distributed architecture.

101. (currently amended) The method of claim 82 further including performing policy management processing and/or decisionmaking to accommodate limited processing or electrical power of the mobile computing device

102. (currently amended) The method of claim 82 further including performing policy management processing and/or decisionmaking to accommodate bandwidth limitations of ~~the current~~ at least one network(s) or subnetwork(s) that the mobile computing device is currently associated with.

103. (currently amended) The method of claim 82 further including performing policy management processing and/or decisionmaking to accommodate ~~security purposes of the mobile computing device~~ security.

104. (currently amended) The method of claim 82 further including dynamically managing and/or controlling at least one of access to and consumption of ~~at least one computing~~ said resource even while the mobile computing device is unreachable.

105. (currently amended) The method of claim 82 further including dynamically managing and/or controlling at least one of access to and consumption of ~~at least one~~

HANSON et al.  
Appl. No. 10/078,377  
March 6, 2006

computingsaid resource even while the mobile computing device is unable to send IP datagrams over any network or subnetwork.